

Abstract

The present embodiments and associated methods provide for an integrated EMI shield for effective shielding not only from emissions perpendicular to the integrated circuit (IC) chip carrier but also parallel (edgewise) to the carrier. In one embodiment, an IC chip carrier comprises an insulating ceramic substrate and at least one internal electrically conductive layer being a circuit ground, portions of which extend to the edge of the substrate, the internal electrically conductive layer in electrical contact with an electrically conductive layer applied to a portion of the substrate edge. This provides a horizontal hybrid ground plane which can be used as an EMI shield that runs horizontally to the chip as well as a hybrid edge EMI shield perpendicular along at least a portion of the edge. This edge shield protects internal circuitry from exterior EMI emissions directed towards the chip carrier edge portion incorporating the shield.

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